

LOUISVILLE NAVAL SURFACE WARFARE CENTER

LOUISVILLE, KENTUCKY

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: COMNAVSEASYSOM
Size: 132 Acres
Funding to Date: \$1,743,000
Estimated Funding to Complete: \$2,696,000

Base Mission: Engineering support of conventional and electronic warfare systems; production of missile hardware, gun barrels, electronic components and parts for warfare systems

Contaminants: Acid, heavy metals, paint, POLs, solvents, ash, plating waste



Number of Sites:		Relative Risk Ranking of Sites:		
CERCLA:	6	High:	1	Not Evaluated:
RCRA Corrective Action:	0	Medium:	0	Response Complete:
RCRA UST:	0	Low:	1	Total Sites:
Total Sites:	6			6

BRAC IV

EXECUTIVE SUMMARY

Louisville Naval Surface Weapons Center (NSWC) is a highly industrialized facility located on 132 acres of land within the city limits of Louisville, Kentucky, seven miles south of the center of downtown and one-half mile from the municipal airport. Its primary functions are to overhaul, procure and produce weapon systems and components needed by combat vessels of the Navy. Typical NSWC operations that contributed to the contaminated sites on the installation include machining, assembling, overhauling and refurbishing of gun mounts and other Navy ordnance equipment, and supporting research, design, development and testing. Support operations include machining, welding, draining of lubricating fluids, painting, electroplating, degreasing and cleaning, and paint stripping. The NSWC includes the following site types: waste storage areas, plating shop areas and disposal areas. Current operations include pollution prevention technologies to prevent further contamination. The installation has applied for a RCRA Part B permit which will include a Corrective Action requirement to clean up the contaminated sites.

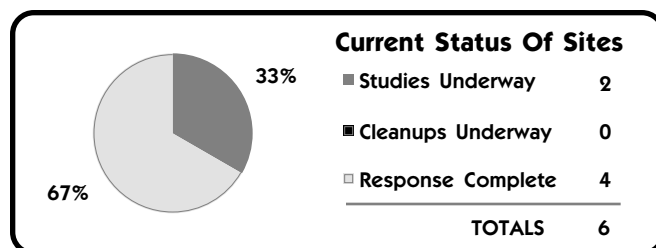
The installation is underlain with a relatively impermeable layer of weathered shale and clay over bedrock composed of layers of shale and limestone. There is a perched aquifer in the upper layer of clay. Contaminants could potentially migrate downward through the soil layer to the groundwater. The clay layer may not be continuous and not an effective barrier to contaminant migration to aquifers in the lower bedrock formations, although further study is needed to investigate this. In the area of the station, rain and snowfall result primarily in surface runoff. Surface runoff is a possible migration pathway for contamination from the station's sites. The runoff is carried by a series of manmade drainage channels to the municipal storm sewer system. A portion of the runoff drains off-site to a series of drainage ditches that discharge to area streams that eventually flow into the Ohio River. These off-base drainage ditches throughout the area are polluted from a number of sources. Due to the highly developed nature of the area surrounding the station, the only wildlife in the area are

species such as mice, raccoons, and sparrows that adapt well to urban areas. Drinking water is supplied by a municipal water supply system. Potential receptors along the possible contaminant migration pathways are limited.

To better inform the public of the environmental cleanups underway at the station, a Restoration Advisory Board (RAB) will be established and the Community Relations Plan will be published in April 1996. In early FY96, an Information Repository will be set up on base in Building G-4 and will be accessible to the public.

Of the six sites at Louisville NSWC, four have completed the Installation Restoration Program (IRP) phases and are Response Complete (RC). Three of the four sites (Site 2, 3 and 5) listed RC are also listed as Site Close Out (SCO) following the Initial Site Assessment (IAS) in FY86. The fourth site (Site 1) received SCO in FY91. The other two sites (Sites 4 and 6) will continue through the IRP study and cleanup phases. A RCRA Facility Assessment update is currently underway. The future study and cleanup actions for these sites will be impacted by the results of the RFA and the recent BRAC status of the facility.

Louisville NSWC was recommended for privatization/closure by the 1995 Base Realignment and Closure (BRAC) commission. Appropriate functions, along with personnel, equipment and support, will remain or be downsized. Approximately 40% of the workload will be downsized, the remaining 60% will be "privatized-in-place".



LOUISVILLE NSWC RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The area is underlain by a soft and weathered shale. Where it is exposed on the surface, it is very flat ground. Natural drainage is poor, resulting in standing water. Manmade drainage channels were constructed throughout the area to increase the useability of the land surface. The primary geological unit in the area is glacial outwash sediment which is composed of unconsolidated gravels, sands, silts and clays. The outwash sediment comprises the upper aquifer material in the general area. Beneath the outwash sediments, the bedrock is composed of several limestone and shale formations. Aquifers in these formations do provide well water in the surrounding areas. Most of the drinking water is provided by a municipal water supply. Under the installation, the outwash sediment is not found; rather, there is a surficial layer (5 to 10 feet) of clay and silt derived from the weathering of the underlying shale. This layer is relatively impermeable.

Annual rainfall averages 42 inches and annual snowfall averages 18 inches per year. The area is subject to cyclonic storms and thunderstorms with intense rainfall. The area is highly industrialized and surface water drainage is through a series of manmade ditches and storm drains that discharge eventually into the local storm water sewer system and enter the Metropolitan Sewer District system. Along the northeast and eastern portion of the station, the surface runoff drains off-site, merging with runoff from the local area and entering nearby streams that eventually empty into the Ohio River. This surface drainage route is a potential migration pathway for contaminants from the station.

Under the installation, the first groundwater encountered is a perched aquifer in the surficial soils at a depth of 1 to 2 feet. Drainage through this aquifer is laterally towards areas where the soils have been disturbed due to construction activities and the manmade drainage ditches. Water will sometimes "pool" in the disturbed areas and then overflow onto the surrounding surface areas and drain to the drainage ditches. Surface water drainage could potentially carry contaminants into the perched aquifer. Migration potential to the lower aquifers has not yet been defined.



NATURAL RESOURCES - The area surrounding the station is industrial, commercial and residential resulting in limited habitat for wildlife except for species that adapt well to developed areas. Raccoons, starlings, house sparrows, opossums, house mice, Norway rats, and cottontail rabbits may be encountered in residential areas and a few small undeveloped areas. The surface drainage system leading to Pond Creek, Salt River and Ohio River, has been severely polluted for years from a number of sources resulting in limited populations with low species diversity. The US Fish and Wildlife Service has identified several rare, threatened or endangered species in the general area, however, none have been observed on or near the station. The listed species include the Bachman's warbler, bald eagle, American peregrine falcon, arctic peregrine falcon, Indiana bat, gray bat, and the eastern cougar.



RISK - Of the six sites at Louisville NSWC, only Site 6 has been ranked high using the DOD Relative Risk Ranking model. It received a "high" risk ranking. Groundwater is the media which received the ranking, but the migration pathway for the contaminant was only potential, not evident and the contaminants were not found in the groundwater. The high ranking indicates there is a strong potential for the plating shop contaminated wastes to enter the groundwater.

REGULATORY ISSUES



LEGAL AGREEMENTS - The station was issued a RCRA Part B permit on 30 October 1985. A draft HSWA permit was submitted on 18 December 1990. An initial search identified 35 potential Solid Waste Management Units (SWMUs). Of these, two SWMUs were recommended for a RCRA Facility Investigation. One of these SWMUs was Site 4, Northeast Corner Liquid Disposal Area and the second was a drainage ditch. Recommendations for the remaining 33 SWMUs were as follows: No Further Action (NFA) at the present time for 21 SWMUs; confirmatory sampling to determine if further action would be necessary for nine SWMUs; RCRA Closure for two SWMUs; and the remaining SWMU was determined to be a RCRA regulated unit under the permit. There are 17 Underground Storage Tanks (USTs) on the station that are being handled under the RCRA UST program, none of which qualify for DERA funding and the Installation Restoration Program (IRP). Since the SWMUs included all the CERCLA sites, it was planned to move all site cleanups into the RCRA Corrective Action program when the HSWA permit became final. RCRA Facility Assessment (RFA) is currently underway which will officially identify SWMUs. A Correction Action Management Plan (CAMP) is expected to be finalized by August 1996. However, the recent BRAC commission recommendation for closure and privatization of the station has initiated a reassessment of the sites and the cleanup program through the BRAC process.



PARTNERING - In FY96, a formal partnering team will be formed, made up of Navy Remedial Project Managers (RPMs), EPA regulators, state of Kentucky regulators, the BRAC Environmental Coordinator (BEC), BRAC Cleanup Team (BCT) representatives and installation personnel.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - The Restoration Advisory Board (RAB) will be established in April 1996.



COMMUNITY RELATIONS PLAN - The Community Relations Plan will be completed in April 1996.



INFORMATION REPOSITORY - In early FY96, an Information Repository will be established and be located on base in Building G-4 to provide public access to the Administrative Record (the official file) documents.

BASE REALIGNMENT AND CLOSURE



BRAC - Louisville NSWC was recommended for privatization/closure by the 1995 BRAC commission. Appropriate functions, along with personnel, equipment and support, will remain or be downsized. Approximately 40% of the workload will be downsized, the remaining 60% will be "privatized-in-place".



BRAC CLEANUP TEAM - In FY96, a BRAC Cleanup Team (BCT) will be formed.



DOCUMENTS - An Environmental Baseline Survey (EBS) and a BRAC Cleanup Plan (BCP) contract was awarded 15 September 1995. A field survey for the EBS will be completed in early FY96. The final EBS is scheduled for a March 1996 completion. A modified BCP is scheduled for April 1996.



REUSE - A BRAC Reuse Plan is expected to be completed in March 1996.

LOUISVILLE NSWC HISTORICAL PROGRESS

FY86

Sites 1-5 - An Initial Assessment Study (IAS), similar to a Preliminary Assessment (PA), was completed in July 1986. The IAS identified five sites, and only one was recommended for further study. However, both Sites 1 and 4 proceeded to the Site Inspection (SI) phase.

FY91

Sites 1, 4 and 6 - An SI Report was published 13 May 1991. Of the sites to continue to the SI phase, one (Site 1) was determined to require no further study. Site 4, the Northeast Corner Liquid Disposal Area sample results showed low levels of metals and volatile organic solvents such as TCE, DCE and acetone. A risk assessment concluded none of the low levels represented a risk to workers on the site. An additional site was identified during the SI phase, Site 6, the Building E Plating Shop. **SWMUs 1-35** - A preliminary search identified 35 potential Solid Waste Management Units (SWMUs) on the station, two of which were recommended for further study (SWMUs 20 and 35). SWMU 20 is Site 4 and

SWMU 35 is a drainage ditch in the area. No Further Action (NFA) was required for 21 SWMUs, nine required confirmatory sampling, two required a RCRA Closure, and one was determined to be a RCRA regulated unit. This initial effort to identify SWMUs was never finalized.

FY93

Site 6 - An SI report was published on 6 January 1993. At Site 6, Building E Plating Shop, high concentrations of organic compounds were detected in the soil and groundwater. The report recommended further study in the Remedial Investigation (RI) phase.

FY94

Site 6 - Site 6 (Building E), the only site to have Relative Risk Ranking, was ranked high due to contamination of groundwater. The Remedial Investigation/Feasibility Study (RI/FS) phase for Building E was stopped and it will be grouped in with a base wide investigation.

PROGRESS DURING FISCAL YEAR 1995

FY95

SWMUs - The field survey for an RFA was completed.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 4 and 6 - RI/FS for these two sites is scheduled. **SWMUs** - As required in the draft HSWA permit, a base wide RCRA Facilities Investigation (RFI) will begin. Also, a field survey for the Environmental Baseline Survey (EBS) will be completed in early FY96. Combined with the results for the RFA field survey, it is anticipated that several SWMUs and Areas of Concern (AOCs) will be identified.

FY97

Sites 4 and 6 - Remedial Design (RD) for Sites 4 and 6 will begin in FY97; the associated Remedial Actions (RAs) are scheduled for completion in FY98.

LOUISVILLE NSWC PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	6							
SI	2							
RI/FS			1	1				
RD				1	1			
RA					2			
IRA								
RC	4				2			
Cumulative Response Complete	67%				100%			